
VILLAGE OF SUGAR GROVE BOARD REPORT

TO: VILLAGE PRESIDENT & BOARD OF TRUSTEES
FROM: DANIELLE MARION, PLANNING & ZONING ADMINISTRATOR
SUBJECT: DISCUSSION: ZONING ORDINANCE TEXT AMENDMENT, OUTDOOR ILLUMINATION
AGENDA: JANUARY 7, 2025 VILLAGE BOARD MEETING
DATE: DECEMBER 30, 2024

ISSUE

Shall the Village Board discuss an amendment of the Zoning Ordinance that will amend the outdoor illumination requirements to bring them up to dark sky standards. The amendment will specifically amend Title 11 Chapter 18 Outdoor Illumination.

DISCUSSION

As part of the Grove PDD, dark sky outdoor illumination standards were adopted for this development. The Village has reviewed these standards during the Grove PDD process and feel that these would be beneficial to adopt across the Village in place of our current outdoor illumination requirements. There are some similarities with our current regulations to the dark sky regulations, such as all lights must be fully shielded and there shall be no light trespass past property lines, but the dark sky regulations have more restrictions and are more detailed than our current regulations.

The Planning Commission held the required public hearing on December 18, 2024. The Commissioners discussion included how the new light measurement standards would be enforced and at what point would existing outdoor illumination that does not comply with the new standards be required to come into compliance. Overall they did not have concerns about the new standards and voted to recommend that the Village Board approved the proposed text amendment.

Prior to the Planning Commission meeting it was discovered that there was a section of exclusions left out of the exhibit that should be included. They have been added to the attached exhibit to this report. The Plan Commission did inquire about some of these exclusions and were told that they were included during the discussion. The items in exhibit a in Red are the items that were originally left out of the exhibit for the Plan Commission, but have since been added after discovering they were not included.

ATTACHMENTS

- Plan Commission Recommendation 25-001
- Exhibit A – Proposed Dark Sky Outdoor Illumination Standards

RECOMMENDATION

That the Village Board discuss the proposed text amendment and provide staff with direction on preparing the necessary ordinance for approval.

VILLAGE PRESIDENT

Jennifer Konen

VILLAGE ADMINISTRATOR

Scott Koeppel

VILLAGE CLERK

Tracey Conti



COMMUNITY DEVELOPMENT

VILLAGE TRUSTEES

Matthew Bonnie

Sean Herron

Heidi Lendi

Sean Michels

Michael Schomas

James F. White

R E C O M M E N D A T I O N

PC24-018

TO: Village President and Board of Trustees
FROM: Planning Commission
DATE: Meeting of January 7, 2025
PETITION: 24-018 Text Amendment: Outdoor Illumination

PROPOSAL

The Village is proposing to amend Chapter 18 Outdoor Illumination of the Village Code to replace and add additional standards to existing Sections. There are seven existing sections in Chapter 18: 11-18-1 to 11-18-7. Sections 11-18-1 and 11-18-2 will remain, Sections 11-18-3 through 11-18-6 will be updated and replaced with a new 11-18-3 Section, and Section 11-18-7 will be renamed Section 11-18-4.

BACKGROUND & HISTORY

The Village recently annexed approximately 760 acres of unincorporated land, commonly known as, The Grove. More substantial outdoor illumination standards than the existing standards in the Village Code were adopted for the annexed land along with the annexation. Staff has determined that the more substantial standards should apply to the rest of the Village as well so that light pollution is controlled and abated throughout the Village.

PUBLIC RESPONSE

After due notice, the Planning Commission held a public hearing on December 18, 2024. No objectors were present.

DISCUSSION

Commissioners discussed the proposed text amendment and staff confirmed that the updated standards would apply to new development and would affect existing businesses only when those businesses update their existing lighting.

RECOMMENDATION

Commissioner Guddendorf made a motion to recommend the Village Board approve the text amendment for Chapter 18 Outdoor Illumination as stated in Exhibit A. Commissioner Jones provided a second.

AYES: Jones, Coia, Speciale, Guddendorf, Sabo, Bieritz, Ochsenschlager

NAYES:

Motion Passed

Exhibit A

11-18-3: GENERAL STANDARDS:

A. Illumination Standards:

(1) Gross Emission of Light:

(a) Commercial, Office, Business, Civic, and Industrial uses:

(i) The total light output from all luminaires used for outdoor lighting shall not exceed 100,000 lumens per acre. Lighting installations located under canopies shall only contribute 50% toward this limit.

(ii) For the purpose of this calculation, the lamp lumen output is defined as the initial lumen rating declared by the manufacturer, which consists of the lumen rating of a lamp at the end of 100 hours of operation. A sample calculation of gross emission of light is as follows: Lumens per fixture (based on fixture type) x quantity of fixtures = total lumens. Sum the total lumens for all fixtures / total acres = total lumens per acre (gross emission of light).

(b) Exemptions:

(i) Lighting for outdoor athletic fields on public property, outdoor events, and special events.

(ii) Emergency egress lighting and lighting required by Village, county, state or federal law.

(iii) Street lighting.

(iv) Lighting installations for non-internally illuminated signage not exceeding 800 lumens.

(2) Light intensity and uniformity:

(a) Commercial, Office, Business, Civic and Industrial uses: During permitted hours of operation, outdoor lighting shall meet the following requirements for light level as measured in the plane of the illuminated surface:

(i) Motor vehicle fueling station pumping areas shall be required to meet a minimum standard of 10 footcandles and not exceed a maximum of 30 footcandle. If greater than 30 footcandles are required a variance may be approved administratively by Village Administrator.

(ii) Drive-in and drive-through canopies shall not exceed a maximum of 15 footcandles.

(b) Digital outdoor display:

(i) A digital outdoor display shall be equipped with a light sensor which shall automatically adjust the luminance of the sign in response to the level of the outdoor lighting in a range between 40 nits during the nighttime hours and 5,000 nits during the daytime hours. Brightness must

be measured from the brightest element of the sign's face. The applicant shall provide written certification from the sign manufacturer that the light intensity has been factory pre-set so that it shall not exceed the luminance levels for day and night. Daylight hours are defined as dawn until dusk.

(3) Light direction and control:

- (a) Any luminaire which is used for uplighting shall have the necessary shielding and/or beam-angle control and/or shall be aimed to substantially confine the directed light to the object intending to be illuminated. Uplighting shall only be permitted for landscape lighting, architectural lighting, flag lighting, and lighting of ground-mounted signs that are not internally illuminated. If downlighting shall not exceed one thousand and seven hundred fifty hundred (1,750) lumens output. Uplighting applications shall meet the following requirements:

Uplighting Application	Maximum Inclination	Maximum Light Output (lumens)
Landscape lighting	60°	1,100 ³ (up to 45°)
		800 ⁴ (up to 60°)
Architectural lighting	45°	1,100 ³
Flag lighting ¹	60°	1,100 ³ (up to 45°)
		800 ⁴ (up to 60°)
Sign lighting ²	45°	1,100 ³
¹ The tradition of lowering flags at sunset or the use of a top-mounted fully shielded fixture is encouraged. ² Ground-mounted, non-internally illuminated signs only. ³ Typical 75W incandescent bulb or 50W low-voltage halogen landscape bulb. ⁴ Typical 60W incandescent bulb or 35W low-voltage halogen landscape bulb		

(b) Residential Uses:

- (i) Any luminaire with a light output exceeding 1,100 lumens which is used for outdoor lighting shall have the necessary shielding and/or beam-angle control and/or shall be aimed so that the direction of all directly emitted light is at or below horizontal. Any luminaire output less than what is listed above does not require shielding. If a motion-activated sensor that illuminates the luminaire for no more than five minutes upon activation is used, said luminaire shall have a light output of up to 2,200 lumens (or incandescent bulb of 150 watts).
- (ii) Any luminaire with a light output exceeding 2,200 lumens (or incandescent bulb of 150 watts) which is used for outdoor lighting shall have the necessary shielding and/or beam-angle control and/or shall be

aimed so that the light source is not visible along any property line, as viewed at a height of 36 inches above grade.

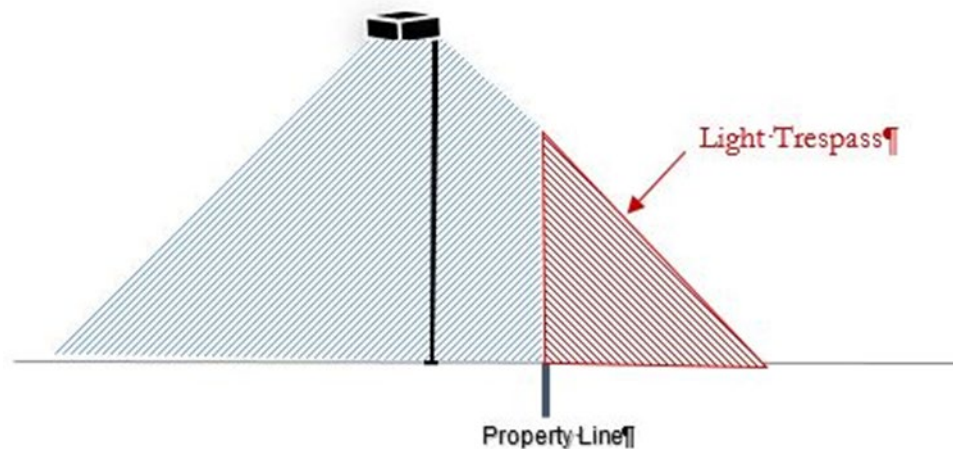
(c) Commercial, Office, Business, Civic, and Industrial uses:

(i) Except as otherwise stated herein, any luminaire which emits light directed at a building, sign, billboard, or other outdoor feature shall be located at or above the top of said object and be aimed and controlled so that the direction of all emitted light is at or below horizontal and the directed light is substantially confined to the object intended to be illuminated.

(4) Light trespass:

(a) Except for street lighting, light emitted from outdoor lighting on any lot shall not cause the light level along any property line, as measured at a height of 36 inches above grade in a plane at any angle of inclination, to exceed the following limits:

Emitting Lot Use	Impacted Lot Use	Maximum Light Levels (footcandles)
Residential Use	Residential use	0.1
Residential Use	Commercial, Office, Industrial, and Civic uses	0.5
Commercial, Office, Industrial, and Civic uses	Residential use	0.1
Commercial, Office, Industrial, and Civic uses	Commercial, Office, Industrial, and Civic uses	0.5



(5) Permitted hours for outdoor lighting.

(a) Commercial, Office, Business, Civic and Industrial uses:

(i) Except for street lighting, outdoor lighting (including, but not limited to, parking lot area, architectural lighting, landscape lighting, etc.) is permitted to be lighted between one-half hour before sunset and 10:00 p.m. or one hour after the close of business based on normal hours of operation of the business, whichever is later. Thereafter, for safety and security purposes, security lighting is permissible at a total light output not greater than 25% of the total light output from all outdoor lighting located on the lot during permitted outdoor lighting hours. During security lighting hours, no luminaire shall exceed its light output exhibited during permitted outdoor lighting hours.

(b) Exemptions:

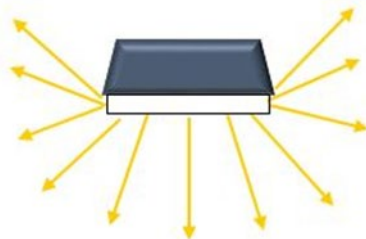
(i) Businesses that are open 24 hours.

(ii) Sports and recreation, outdoor. Outdoor lighting of an outdoor sports and recreation facility of an organized sporting event that is in progress at the close of permitted outdoor lighting hours shall be allowed to remain illuminated until 30 minutes after the conclusion of the event, but no later than 11:00 p.m. No outdoor lighting of the outdoor athletic field for any sport or recreational purpose shall be initiated after 10:00 p.m.

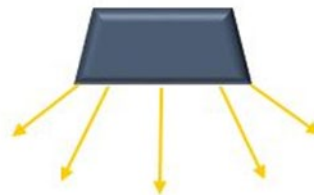
B. Luminaire Standards:

- (1) Fully shielded requirement: Except for uplighting applications permitted herein, any luminaire used for outdoor lighting for Commercial, Office, Business, Civic, and Industrial uses shall be a fully shielded luminaire and shall be installed in the proper orientation to achieve fully shielded performance with respect to a horizontal plane.

Unshielded



Fully Shielded



(2) Light pole height:

- (a) The light pole height of any luminaire used for outdoor lighting on any lot, except for street lighting, shall not exceed the following limits:

Use	Maximum Light Pole Height ¹
Commercial, Office, Residential (excluding single family dwellings), Civic and Transportation	25'
Industrial	35'
¹ Install height is measured from finished grade to the top of the fixture.	

(3) Street lighting:

- (a) Any luminaire used for street lighting shall be a fully shielded seventy-watt high-pressure sodium (HPS) luminaire, or approved equivalent to high-pressure sodium (HPS) in correlated color 39 temperature (CCT) as measured in degrees Kelvin, and shall be installed in the proper orientation to achieve fully shielded performance with respect to a horizontal plane at all public and private streets.

(4) Light source requirements:

- (a) All light sources must have a correlated color temperature of 3,000° Kelvin or less.

C. The following outdoor illumination standards shall be permitted, none of which shall be construed as allowing light trespass onto adjoining properties or roadways, nor nuisance glare or disabling glare:

- (1) Lighting within the public right-of-way or easements which serves the principal purpose of illuminating streets and sidewalks and bike paths.
- (2) Security lights that are controlled by a motion sensor switch which extinguishes the light within thirty (30) minutes after activation.
- (3) Recreational use lighting under the control of a public or not for profit organization.
- (4) Lighting which is used to outline a building or features of a building including windows for non-residential uses.
- (5) Outdoor festoon lights and lanterns, including tree lighting, for non-residential uses including parks.
- (6) Neon lights utilized for signage.

D. Exempt Outdoor Lighting

- (1) Seasonal decorations in place no longer than forty-five (45) calendar days before a holiday or thirty (30) calendar days after the holiday.
- (2) Underwater lighting used for the illumination of swimming pools and Fountains.
- (3) Lighting required by Village, county, state, or federal law, including single-purpose emergency egress lighting on the building.
- (4) Temporary lighting used for holiday decoration.
- (5) Decorative yard lighting characterized by a flame source.
- (6) Portable lighting temporarily used for maintenance or repair that is not deemed by the Village to create a hazard or nuisance.
- (7) Emergency response lighting used by police, fire-fighting, emergency management, or medical personnel at their discretion as long as the emergency exists.
- (8) Lighting for Village-approved special events such as carnivals, circuses, festivals, picnics, fairs, civic events, and exhibitions.
- (9) Temporary lighting required for road construction or other public Improvements.

E. Prohibited Outdoor Illumination:

- (1) Permanent strobe lights, search lights, and laser lights, including laser light shows and aerial laser lights, except if temporary for event purposes, then it is permitted but must be extinguished/turned off at the end of the event and must be removed within 24 hours of the end of the event.
- (2) Flashing lights unless temporarily triggered by a security system and extinguished within thirty (30) minutes of activation or at a time of security response.
- (3) Lighting that may be confused with a traffic signal or traffic control device.
- (4) Lighting that contributes to or causes disabling glare onto a public roadway or sidewalk.
- (5) The use of neon light to accent buildings or architectural features.

F. Additional standards:

- (1) Outdoor lighting shall be fully shielded and aimed downward. Light shall not be emitted above ninety degrees (90°).
- (2) Outdoor lighting shall maintain a CCT not to exceed three thousand (3000) K. Color temperature shall be "warm white". Color temperatures in the "cool white" to "blue" hues are expressly prohibited.
- (3) All luminaires and component parts shall be maintained in a safe, working condition. Any broken luminaire or component part shall be repaired, replaced, or removed immediately upon discovery of the condition.

- (4) All new and replacement lighting shall be light emitted diode (LED) illumination or an energy efficient equivalent as approved by the Village Administrator.
- (5) In parking lots used at night, each parking space shall be illuminated to a minimum 0.5 foot-candle.
- (6) Parking lot pole structures shall be located within landscape areas. No exposed concrete foundations are permitted to extend more than 6" above grade.